



## **The fluorescence properties of dissolved organic matter in aquatic ecosystems- a spectral database for comparison with known compounds.**

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For many years fluorescence spectroscopy has been used to trace and characterise dissolved organic matter (DOM) in aquatic ecosystems. DOM is a complex mixture of organic compounds primarily originating from the degradation of terrestrial and aquatic plant material much of which remains uncharacterised. As a consequence the fluorescence spectra represent the overlapping spectra of all the fluorescent compounds present. At present novel data analysis techniques (parallel factor analysis-PARAFAC) are being applied to DOM fluorescence data and are able to isolate the signal from different independent fluorescent fractions. These identified fractions can then be used as a proxy to follow the internal dynamics/turnover of the DOM pool as a whole. What is currently lacking is a better understanding of the chemical properties of the identified fluorescence fractions. Here a recently started web-based spectral database of organic fluorophores is presented. The database is freely available and the fluorescence data can be downloaded so that scientists can freely compare the fluorescence signals extracted from DOM with the fluorescence properties of known organic compounds.